

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

- 1 1. (Currently amended) A seat belt system comprising:
2 a composite cable assembly comprising a flexible cable having a first and a
3 second end, one of the first and second ends connectable to a first mechanism and the
4 other of the first and second ends connectable to a second mechanism, the cable
5 comprising at least one single strand of wires, each strand having intra-wire spaces and
6 a fill material consisting of molten solder, the molten solder disposed within the intra-
7 wire spaces along a first length of the at least one strand, the fill material after being
8 coated on the cable is configured to harden so as to change the amount of energy
9 needed to bend the coated portion of the cable in comparison to the uncoated portion of
10 the a cable having no fill material within the intra-wire spaces, wherein the at least one
11 strand is dipped in a liquid form of the fill material which flows in the intra-wire spaces
12 without the need of pressurizing the fill material, the fill material later in time hardens to
13 form the composite cable assembly.
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1 2. (Currently Amended) The system as defined in Claim 1 wherein the first
2 mechanism to which the cable is connected ~~includes~~ a housing having a movable
3 piston associated with a pretensioner and the second mechanism to which the cable is
4 connected is one of a buckle and a buckle-connecting member, wherein the coated
5 portion first length of the cable, at least one strand prior to activation of the pretensioner,
6 is remote from the housing.
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1 3. (Previously presented) The system as defined in Claim 1 wherein the fill material
2 also covers the exterior of the cable and is of a predetermined thickness.
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1 4. (Currently amended) The system as defined in Claim 3 wherein the molten solder
2 upon cooling fill material has a predetermined thickness over the coated portion of the
3 cable, and wherein the energy needed to bend the coated portion of cable is greater

4 than the energy needed to bend an uncoated portion of the cable~~the cable varies with~~
5 ~~the thickness, resin or alloy of the fill material.~~

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1 5. (Cancel)

1 6. (Currently Amended) The system as defined in Claim 1 wherein the fill material
2 includes a) an alloy comprising molten: lead, tin, silver, bismuth, copper, antimony,
3 ~~selenium; b) a resin or c) an epoxy.~~

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1 7. (Currently Amended) The system as defined in Claim 1 wherein the cable is
2 configured as a component of a buckle pretensioner, the pretensioner including a
3 curved path about which the cable is pulled, one end of the cable extending from the
4 pretensioner connected to a buckle, and wherein the fill material is located upon the
5 cable at least between the curved path and the buckle, wherein movement of the coated
6 portion of the cable about the curved path decelerates movement of the cable.

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1 8. (Previously presented) The system as defined in Claim 7 wherein the cable
2 assembly includes a plurality of strands with intra-strand spaces between each strand.

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1 9. (Previously presented) The system as defined in Claim 8 wherein the fill material
2 fills intra-wire spaces as well as the intra-strand spaces.

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1 10. (Canceled)

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1 11. (Currently amended) A vehicle occupant restraint system, including:

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a seat belt pretensioner comprising

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a curved cable guide and a flexible wire cable, the wire cable configured to
4 be slidably movable through the cable guide about an arcuate path defined by the cable
5 guide, the wire cable having a first portion arranged along a first direction in relation to
6 the cable guide, a second portion arranged along a second direction in relation to the
7 cable guide, the first and second directions spaced apart by an acute angle, the wire

8 cable includes a third portion initially bent about the arcuate path of the cable guide, the
9 wire cable configured so that as the first portion is moved in the first direction the
10 second portion is moved toward and in contact with the arcuate path that was initially
11 taken up by the third portion, having an initial measurable flexibility, the wire cable
12 including stiffening means applied to the second portion of the wire cable, for making
13 the second portion of the wire cable more difficult to bend in comparison other portions
14 of the wire cable remote from the stiffening means increasing the stiffness of a selected
15 portion of the cable above the initial measurable stiffness to enhance energy dissipating
16 properties of the cable when bent;

17 and wherein the stiffening means includes a solder that spreads through intra-
18 wire spaces in the cable and which covers exposed surfaces of the wire cable wires via
19 capillary and wherein the solder comprises tin configured to remain is pliable within a
20 temperature range of -40 degrees F and 120 degrees F..

1 12. (Canceled)

1 13. (Currently amended) A vehicle occupant restraint system, including:

2 a seat belt pretensioner comprising

3 a curved cable guide defining a curved path;

4 a flexible composite cable disposed about the curved path of the cable

5 guide, the composite cable comprising at least one strand of wires, the wire strand

6 having intra-wire spaces, and an energy dissipating coating filling the intra-wire spaces,

7 wherein a portion of the at least one wire strand is dipped in a solder liquid form of the

8 coating which flows in the intra-wire spaces, the solder coating later, in time, hardening

9 about the to form the composite cable assembly;

10 first means for moving the cable about the curved path of the cable guide;

11 wherein the at least one wire strand has a determinable level of rigidity in

12 uncoated solder regions, wherein the solder energy dissipating coating is configured to

13 increase the level of rigidity of the composite cable in solder coated regions compared

14 to the rigidity of the uncoated regions at least one wire strand thereby taking more

15 energy to bend the coated regions of the cable straight section of the composite cable

16 about the cable guide in response to movement of the first means, the bending of the
17 solder coated regions of the cable generating a force tending to retard the motion of the
18 first means.

1 14. (Previously presented) The system as defined in Claim 13 wherein the energy
2 dissipating coating is applied to a selected portion of the cable between the cable guide
3 and a seat belt buckle.

1 15. (Previously presented) The system as defined in Claim 14 wherein the coating
2 is within a portion of the wire strand cable initially positioned in the vicinity of the cable
3 guide.

1 16. (Currently amended) A method of making the system of Claim 1, the method
2 comprising the following steps:

3 a) providing a length of at least one single strand of wires~~wire strand~~, the at least
4 one strand of wires~~wire strand~~ having a measurable stiffness to bending;

5 b) dipping a portion of the at least one single strand of wires~~wire strand~~ into a
6 liquid material capable of filling the inter-wire spaces by capillary action;

7 c) permitting the liquid material to solidify thereby increasing the stiffness of the
8 impregnated length of at least one single strand of wires~~wire strand~~ and thereby
9 forming the composite cable.

1 17. (Original) The method as defined in Claim 16 wherein the cable is metal and
2 wherein the liquid material is a molten solder.

1 18. (Previously presented) The method as defined in Claim 16 wherein the cable is
2 metal and wherein the liquid material is one of a) an alloy comprising molten tin, lead,
3 silver, bismuth, copper, antimony or selenium, b) a resin, and c) an epoxy.

1 19. (Currently amended) The method as defined in Claim 16 wherein the step of
2 ~~impregnating~~ dipping the cable includes dipping the cable in the liquid material.

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20. (Canceled)

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1 21. (Currently amended) The method as defined in Claim 16 including the step of pre-
2 treating the cable prior to the step of ~~impregnating dipping~~.

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1 22. (Previously presented) The method as defined in Claim 21 wherein the step of
2 pre-treating includes the step of applying flux to the cable.

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1 23. (Currently amended) The method as defined in Claim 16 including the step of
2 forming the cable into a desired shape prior to ~~impregnating dipping~~.

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24. – 25. (Canceled)

1 26. (Currently amended) The system as defined in Claim 1 wherein the ~~stiffening~~
2 ~~means includes a molten solder~~ consists of tin that spreads through intra-wire spaces in
3 the cable and which covers the wires via capillary action and wherein the molten solder
4 upon solidifying is pliable within a temperature range of –40 degrees F and 120 degrees
5 F.

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1 27. (Newly Added) A vehicle occupant restraint system, including:
2 a seat belt pretensioner comprising
3 a curved cable guide, a flexible wire cable slidably movable though the
4 cable guide about an arcuate path defined by the cable guide, and a powered
5 mechanism for moving the cable, the flexible wire cable having a first portion arranged
6 along a first direction, a second portion arranged along a second direction, the first and
7 second directions separated by an acute angle, the flexible wire cable include a third
8 portion bent about the arcuate path of the cable guide, the flexible wire cable configured
9 so the first portion can be moved in the first direction by the powered mechanism,
10 thereby causing the second portion to move into contact with the arcuate path initially
11 taken up by the third portion, and urging the second portion to move about at least a
12 portion of the arcuate path, at least a portion of the second portion of flexible wire cable

13 adjacent the cable guide is coated with a solder increasing the stiffness of the flexible
14 wire cable to bending in comparison with an uncoated portion of the wire cable, the
15 coated portion of the wire cable brought into contact with the cable guide as the flexible
16 wire cable is moved creates a force tending to decelerate movement of the flexible wire
17 cable.

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1 28.(Newly Added) The systems according to Claim 27 wherein a portion of the third
2 portion of the wire cable is coated with a solder.